

What is claimed is:

1 1. An electronic ear plug for providing a programmable audible
2 alarm, comprising:
3 an audible alarm circuit, comprising:
4 an interface to receive and store a user-settable time interval and at
5 least one programmable alarm tone from an external source into a memory; and
6 a countdown timer to commence timing upon activation of the
7 user-settable time interval and generating the at least one programmable alarm
8 tone responsive to an expiry of the user-settable time interval; and
9 an ear plug shaped on a distal end to be received by an ear and defining a
10 recess on a proximal end housing the audible alarm circuit.

1 2. An electronic ear plug according to Claim 1, further comprising:
2 a set of perforations defined on the distal end of the ear plug.

1 3. An electronic ear plug according to Claim 1, further comprising:
2 an external recharging source removably coupled to the audible alarm
3 circuit to recharge a power source provided therein.

1 4. An electronic ear plug according to Claim 3, further comprising:
2 an external case to house the external recharging source and comprising a
3 recharging interface to the power source provided by the audible alarm circuit.

1 5. An electronic ear plug according to Claim 1, further comprising:
2 a timer selector to provide at least one of an absolute user-settable time
3 interval and a relative user-settable time interval.

1 6. An electronic ear plug according to Claim 1, wherein the at least
2 one programmable alarm tone comprises at least one of a conventional buzzer,
3 bell, voice, music, and electronically-reproducible sound.

1 7. An electronic ear plug according to Claim 1, wherein the ear plug
2 comprises at least one of a soft-coated ear piece shaped to fit into an ear canal and
3 an ear piece shaped to fit conformably into a cavum conchae of an outer ear.

1 8. An electronic ear apparatus for providing a programmable audible
2 alarm, comprising:

3 means for executing an audible alarm, comprising:

4 means for receiving and means for storing a user-settable time
5 interval and at least one programmable alarm tone from an external source into
6 memory means; and

7 means for commencing timing upon activation of the user-settable
8 time interval and means for generating the at least one programmable alarm tone
9 responsive to an expiry of the user-settable time interval; and

10 means for housing the executing means and means for receiving the
11 housing means into an ear.

1 9. A programmable ear plug providing an audible alarm, comprising:
2 a removable ear plug shaped on a distal end to be received by an ear and
3 integrating an audible alarm circuit on a proximal end, comprising:

4 a memory to maintain a user-settable time interval and at least one
5 programmable alarm tone received over a programming channel;

6 a countdown timer to commence timing upon activation of the
7 user-settable time interval and generating the at least one programmable alarm
8 tone responsive to an expiry of the user-settable time interval; and

9 a power supply to provide power to the memory and the
10 countdown timer and comprising a rechargeable power cell and a recharging
11 interface; and

12 an external programmer removably interfaced to the removable ear plug
13 via the programming channel and the recharging interface to recharge to the
14 rechargeable power cell.

1 10. A programmable ear plug according to Claim 9, further
2 comprising:
3 a carrying case to enclose the external programmer.

1 11. A programmable ear plug according to Claim 10, further
2 comprising:
3 a set of conformable cavities within the carrying case configured to
4 receive the removable ear plug.

1 12. A programmable ear plug according to Claim 10, further
2 comprising:
3 a combined interface to consolidate the programming channel and the
4 recharging interface.

1 13. A programmable ear plug according to Claim 9, further
2 comprising:
3 a mobile telephone adapter to enclose the external programmer.

1 14. A programmable ear plug according to Claim 9, further
2 comprising:
3 a control set incorporated into the removable ear plug and providing
4 programming input control and logic to the programming channel.

1 15. A programmable ear plug according to Claim 9, wherein the
2 rechargeable power cell comprises at least one of a capacitor, battery, inductive
3 power cell, and a disposable battery.

1 16. A programmable ear plug according to Claim 9, wherein the
2 removable ear plug is provided in a set comprising a pair of matched ear plugs.

1 17. A method for providing a programmable audible alarm through an
2 electronic ear plug, comprising:
3 situating an electronic ear plug relative to a programming interface
4 removably disposed on an external programmer, the electronic ear plug

5 comprising a removable ear plug shaped on a distal end to be received by an ear
6 and integrating an audible alarm circuit on a proximal end;
7 programming via the programming interface a user-settable time interval
8 and specifying at least one programmable alarm tone into a memory maintained in
9 the electronic ear plug; and
10 placing the electronic ear plug in an ear, wherein the audible alarm circuit
11 commences timing upon activation of the user-settable time interval and generates
12 the at least one programmable alarm tone responsive to an expiry of the user-
13 settable time interval.

1 18. A method according to Claim 17, further comprising:
2 providing programming input control and logic through controls external
3 to the electronic ear plug.

1 19. A method according to Claim 17, further comprising:
2 recharging the audible alarm circuit through an external programmer.

1 20. A method according to Claim 17, wherein the user-settable time
2 interval comprises at least one of an absolute user-settable time interval and a
3 relative user-settable time interval.

1 21. A computer-readable storage medium holding code for performing
2 the method according to Claim 17.